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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.								
10/525,745	02/28/2005	Onn Haran	2823/23	2037								
<div>7590 10/31/2007</div> <div>Mark Friedman Bill Polkinghorn 9003 Florin Way Upper Marlboro, MD 20772</div> <div>EXAMINER ROOT, ROBERT M</div> <table border="1"><thead><tr><th>ART UNIT</th><th>PAPER NUMBER</th></tr></thead><tbody><tr><td>4183</td><td></td></tr></tbody></table> <table border="1"><thead><tr><th>MAIL DATE</th><th>DELIVERY MODE</th></tr></thead><tbody><tr><td>10/31/2007</td><td>PAPER</td></tr></tbody></table>					ART UNIT	PAPER NUMBER	4183		MAIL DATE	DELIVERY MODE	10/31/2007	PAPER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,745

Applicant(s)

HARAN ET AL.

Examiner

Robert Root

Art Unit

4183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because one drawing isn't showing what is disclosed in the Specification. The Specification, Paragraph 0052, states, "In step 711, the OLT checks the grant list. If the grant list is empty, the execution returns to step 702." On Figure 7, Step 711 actually has the resulting condition, "Grant list is **not** empty," pointing back to Step 702. This conflicts with what's disclosed in the Specification. Appropriate action is required by the applicant.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 6, 10, 14, 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of the listed claims' preambles begins being presented as apparatus claims. Then, they start being presented as method claims. Ensuing dependent claims are presented as method claims. The bodies of these listed claims fully and intrinsically set forth all of the limitations of the claimed invention, and the preambles merely state dual intended use of the invention's limitations, which makes the preamble considered not a limitation and is of no significance to claim construction. Examiner will prosecute the claims as method claims.

5. Claim 14 rejected further under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Bullet *d* isn't clear to the examiner. Appropriate action is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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7. Claims 14-16 rejected as broadly interpreted and explained above and further under 35 U.S.C. 102(e) as being anticipated by Edasawa et al (US 6,831,981 B2).

Edasawa discloses a method in a passive optical network that includes an optical line terminal (OLT) and a plurality of optical network units (ONUs) data flow optimization includes an information transmission device (broadly interpreted to include both ONU and OLT) determines the origin of a packet, searches for a destination address of the packet, and, if indicated in the packet header key, broadcast the packet to other interfaced devices or transmit the information to a specific user cell (broadly interpreted to include the term entity) (Abstract; Figures 1-3; Column 1, Line 35 – Column 2, Line 6; Column 8, Lines 52-65).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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10. Claims 1-5 rejected as broadly interpreted and explained above and further under 35 U.S.C. 103(a) as being unpatentable over Sutherland et al (US 2003/0177216 A1) in view of Cunetto et al (US 2003/0031184 A1)

Sutherland teaches a method of registration of a specific ONU, in a passive optical network that includes an optical line terminal (OLT) and a plurality of optical network units (ONUs), comprising the steps of:

- checking, by the OLT, if a registration request message received from the specific ONU meets a certain condition (broadly interpreted to include the term grant);
- wherein said certain grant is selected from the group consisting of a discovery loop (broadly interpreted to include the term grant)
- wherein said step of deciding includes deciding to register said entity as said first entity if said grant is a discovery grant
- further comprising a step of deleting all previously registered entities for said specific ONU

(Paragraphs 0024, 0033, 0042-0044, 0048, 0053; Figures 1, 2, 6).

Sutherland fails to teach how the OLT handles registration request messages from first or additional entities on a specific ONU, which is part of a group consisting of a normal grant.

Cunetto teaches in the same field of endeavor a method of registration of multiple subscribers (broadly interpreted to include the term entities) belonging to a specific switch (broadly interpreted to include the term ONU) in a high speed network (broadly interpreted to include the term passive optical network), comprising the steps of:

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- checking, by the registration server (broadly interpreted to include the term OLT), of a SETUP message (broadly interpreted to include the term registration request message) received from the specific switch;
- based on said checking, deciding, by the registration server, to register an end user (broadly interpreted to include the term entity) associated with the registration request as an entity of said specific switch selected from the group consisting of a subscriber and a subscriber's group (broadly interpreted to include the term additional entity)
- wherein said step of deciding includes deciding to register said subscriber as said subscriber's group if said authorization is a registered flag (broadly interpreted to include the term normal grant)
- further comprising a step of deleting all previously registered addresses (broadly interpreted to include the term entities) for said specific address port (broadly interpreted to include the term ONU)

(Paragraphs 0036, 0039, 0043, 0052-0054, 0057-0058, 0061, 0071).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the methods described by Sutherland and combine them with the methods described by Cunetto to produce a method where first and additional entities associated with a specific ONU can register with the OLT, and giving the OLT control over the scheduling policing with any interfaced ONUs. This allows better control and management for the service provider and finer bandwidth for the end user.

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11. Claims 6-9 rejected as broadly interpreted and explained above and further under 35 U.S.C. 103(a) as being unpatentable over Kramer et al (US 6,546,014 B1) in view of Cunetto et al (US 2003/0031184 A1).

Kramer teaches a method of registration for a specific ONU, in a passive optical network that includes an optical line terminal (OLT) and a plurality of optical network units (ONUs), comprising the steps of:

- checking, by the OLT, of an NID field and a WS field (broadly interpreted to include the term flags field) residing inside a REQUEST message (broadly interpreted to include the term registration request message) received from the specific ONU; and
- based on said checking, deciding, by the OLT, to register said specific ONU

(Column 7, lines 19-28; Figure 4).

Kramer fails to teach how the OLT handles registration request messages from entities, primary or additional, on a specific ONU, analyzing received messages for a flags field containing registration information for additional entities, deciding received registration messages are from additional entities, or deleting previously registered entities.

Cunetto teaches in the same field of endeavor a method of registration of multiple subscribers (broadly interpreted to include the term entities) belonging to a specific switch (broadly interpreted to include the term ONU) in a high speed network (broadly interpreted to include the term passive optical network), comprising the steps of:

- checking, by the registration server (broadly interpreted to include the term OLT), of a user identification number (broadly interpreted to include the term flags field) inside a

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SETUP message (broadly interpreted to include the term registration request message) received from the specific switch; and

- based on said checking, deciding, by the registration server, to register a subscriber (broadly interpreted to include the term entity) associated with the SETUP message as a subscriber of said specific switch selected from the group consisting of a subscriber's group (broadly interpreted to include the term additional entity)
- wherein said step includes checking if user identification number marks an additional registration
- wherein said mark of an additional registration includes a newly defined value, and wherein said step of deciding includes concluding that said entity is said additional subscriber of said specific switch
- wherein said step of deciding includes deciding that a user identification number is an existing registered address (broadly interpreted to include the term old value), the method further comprising the steps of deleting all previously registered entities for said specific switch

(Paragraphs 0036, 0039, 0043, 0052-0054, 0057, 0061, 0071).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the method described by Kramer and add to it the method described by Cunotto to create a method for an OLT in a passive optical network with control over the scheduling policing with any interfaced ONUs to grant network access to entities interfaced to specific ONUs. This allows better control and management for the service provider and finer bandwidth for the end user.

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12. Claims 10-13 rejected as broadly interpreted and explained above and further under 35 U.S.C. 103(a) as being unpatentable over Kramer et al (US 6,546,014 B1) in view of Kwon et al (US 2003/0097435 A1) and further in view of Song et al (US 2003/0137975).

Kramer teaches a method for grant optimization by the OLT in a passive optical network that includes a plurality of optical network units (ONUs) comprising the steps of:

- handling, by the OLT, of a current grant to a specific ONU, said current grant having a current grant content;
- storing said current grant content in a current grant variable;
- checking in a grant list, by the OLT, if an additional grant having an additional grant content belongs to a specific ONU;
- wherein said step of checking includes comparing, by said ONU, a current grant time of said grant with a start grant time of said additional grant;
- comprising the steps of adding optical overhead to said current grant variable, and transmitting by the OLT, of said current grant variable and said optical overhead to specific ONU

(Column 6, line 66 – Column 7, line 15; Figures 3-8, 12, Column 7, line 16-Column 8, line 40; Paragraph 12, Figure 12).

Kramer fails to teach coalescing grant content and said additional grant contents, the step of coalescing includes leaving a laser on, and repeating these previously mentioned steps until grant is found empty.

Kwon discloses in the same field of endeavor a method for network management (broadly interpreted to include the term grant optimization) comprising the steps of:

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- if additional messages (broadly interpreted to include the term grant) are found, compile said additional messages (broadly interpreted to include the term coalescing current grant content)
- repeat this method until said grant is found empty

(Paragraphs 0030-0036).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the method described by Kramer and add to it the method described by Kwon to create a method where the OLT coalesces grant content to an entity of a specific ONU for the purpose of reducing optical overhead to grant content for better control and management for the service provider and finer bandwidth for the end user.

In addition, Song teaches a method in a passive optical network that includes an optical line terminal (OLT) and a plurality of optical network units (ONUs)

- wherein the step of transmission (broadly interpreted to include the term coalescing) includes leaving a laser on

(Paragraph 0062 and 0067).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the above combined methods described by Kramer and Kwon and add to it the step of leaving the laser turned on for the step of coalescing, which will save on turning the laser off followed by a second turn-on of said laser.

13. Claims 17-18 rejected as broadly interpreted and explained above and further under 35 U.S.C. 103(a) as being unpatentable over Sutherland et al (US 2003/0177216 A1) in view of Cunetto et al (US 2003/0031184 A1).

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Sutherland teaches a method of registration of a specific ONU, in a passive optical network that includes an optical line terminal (OLT) and a plurality of optical network units (ONUs), comprising the steps of:

- Providing an ONU with a separate identifying media access control address
- Performing sequentially a registration process for each ONU using its separate identifying media access control address
- Wherein said standard registration process is performed according to the IEEE 802.3 specification

(Paragraphs 0049, 0062-0063).

Sutherland fails to teach that entities on an ONU register provide an OLT with their respective media access control address.

Cunetto teaches in the same field of endeavor a method of registration of multiple subscribers (broadly interpreted to include the term entities) belonging to a specific switch (broadly interpreted to include the term ONU) in a high speed network (broadly interpreted to include the term passive optical network), comprising the steps of:

- Providing each subscriber of a multiple subscriber switch with a separate identifying address;
- Performing sequentially a standard registration process for each said entity using its separate identifying address

(Paragraphs 0036, 0039, 0043, 0052-0054, 0057, 0061, 0071).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the method described by Sutherland and add to it the

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registration process involving multiple entities described by Cunetto to create a method for an OLT in a passive optical network with control over the scheduling policing with any interfaced entities of ONUs. This allows better control and management for the service provider and finer bandwidth for the end user.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Root whose telephone number is 571-270-1960. The examiner can normally be reached on Monday to Thursday from 7:30am to 5:00pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on 571-272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Supervisory
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PRIMARY EXAMINER
10/25/07

Robert Root
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Patent Examiner